

## ABSTRACT OF THE DISCLOSURE

A delta-sigma modulator includes a quantization bit rate detection unit that detects a quantization bit rate of a digital audio signal, a volume setting value detection unit that detects a volume setting value of the digital audio signal; a filter that includes plural sets of filter coefficients having different shaping properties and allows the quantization noise to pass, and a filter coefficient switcher that switches the filter coefficients of the filter in accordance with the detection results of the quantization bit rate detection unit and the volume setting value detection unit. The delta-sigma modulator detects the quantization bit rate of an input signal and switches the filter coefficients to the low-order filter coefficient set when a source has a low quantization bit rate.